From: Carson, David
Sent: Monday, June 17, 2013 3:57 PM
To: Hammerschmidt, Ron
Cc: Groskinsky, Brenda; Weber, Robert; McKernan, John; Tolaymat, Thabet
Subject: ORD initial observations of Bridgeton Landfill Data

Hi Ron,

This is an email to summarize our discussion this afternoon that began just before 2pm your time.

Dr. Thabet Tolaymat and I briefly examined recent data as described in the Monthly Data Submittals (most recent dated 20 May 2013) and the Weekly Data Submittals (most recent dated 11 June 2013).

We offer these observations based on this limited data set as we discussed today:

Observations

1. Gas flow rate: The data indicate steady flow rates since January 2013, which is consistent with normal landfill operations.
2. Gas composition: Oxygen and nitrogen should generally not be present in collected landfill gas. Data indicates that while this is occurring at some wells, and could result from operational decisions (e.g. overdrawing landfill gas collection system) or a leak in the system. Carbon monoxide and hydrogen at levels appearing in the data are slightly unusual for normal landfill operations but can be present without a subsurface smoldering event taking place.
3. Gas temperatures: Observed temperatures (near 210 degrees F at well head) are slightly elevated, but consistent with active waste decomposition. This data is well below what has been observed at other sites with subsurface smoldering events.
4. Waste Surface/Differential Settlement: data show a 2% localized settlement over what is believed to be a 2 to 3 month time period. This is abnormal and cannot be explained with this data, but could be associated with elevated leachate levels or waste temperatures. Historical data would better identify trends.
5. Leachate level: more information is needed, unclear about what is being measured, likely distance from bottom of quarry to standing liquid head. One data point indicated elevated levels, which returned to normal operating levels for the remainder of the data set. Historical data would better identify trends.

Questions

1. Are there any obvious signs of subsurface reaction or fire such as smoke or steam?
2. What is the baseline for surface settlement data?
3. Historical data from 2011 and 2012 to observe trends
4. How liquid leachate level is measured above quarry bottom

We look forward to advising the region about this site. We are interested in a site visit as you deem appropriate.

David Carson

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3.2.1 Beneficial Use of Materials and 3.2.2 Energy Recovery from Waste